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ABSTRACT

This paper examines the history, functions, and impact of the four existing educational communications organizations in Canada: (1) TVOntario; (2) Radio Quebec; (3) ACCESS Alberta; and (4) the Knowledge Network of the West in British Columbia. It is noted that, while broadcasting and communications have always fallen under federal jurisdiction, education is the sole responsibility of each provincial government. The overlap between these two, in the form of educational broadcasting, necessitated the formation of new regulatory policy. A discussion of the new policy reveals that, while the four authorities may share similar purposes in the provision of educational opportunities to the public, and adhere to a common national programming definition, there are distinct differences among them that are reflected in their roles and functions: (1) TVOntario produces and distributes all educational programs on its television network; (2) ACCESS Alberta (Alberta Educational Communications Corporation) produces educational programs and operates radio stations, but has no television network of its own; (3) Radio-Quebec distributes educational programming and produces programming relevant to the region's cultural concerns; and (4) the Knowledge Network distributes programming produced elsewhere. It is noted that the Agency for Tele-Education in Canada (ATEC) is an umbrella organization designed to facilitate interaction among the four educational communications authorities, including communication, information sharing, and co-production of programs. This report provides a brief introductory overview of the four communications organizations together with a detailed description of each of the four. (17 references) (DB)

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TVOntario

Office of Development Research
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NEW TECHNOLOGIES IN CANADIAN EDUCATION

PAPER 7

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THE PROVINCIAL EDUCATIONAL COMMUNICATIONS ORGANIZATIONS IN CANADA

By Joy Wilson
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January 1984

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NEW TECHNOLOGIES IN CANADIAN EDUCATION

Paper 1	An overview of the educational system in Canada
Paper 2	Communications and information technologies in Canadian elementary and secondary schools
Paper 3	Communications and information technologies in community colleges in Canada
Paper 4	Communications and information technologies in Canadian universities
Paper 5	Communications and information technologies and distance education in Canada
Paper 6	Communications and information technologies and the education of Canada's native peoples
Paper 7	The provincial educational communications organizations in Canada
Paper 8	Educative activities of the Canadian Broadcasting Corporation and the National Film Board of Canada
Paper 9	Applications of new technologies in nonformal adult education in Canada: Two examples
Paper 10	Canadian cable television and education
Paper 11	Educational applications of videotex/Telidon in Canada
Paper 12	Educational applications of communications satellites in Canada
Paper 13	Educational videodisc in Canada
Paper 14	Educational teleconferencing in Canada
Paper 15	Telehealth: Telecommunications technology in health care and health education in Canada
Paper 16	The high technology industry and education in Canada
Paper 17	New technologies in education in Canada: Issues and concerns

Copies of these papers can be purchased from TVOntario, Box 200, Station Q, Toronto, Ontario, Canada M4T 2T1.

FOREWORD

We dedicate this series to its designer and director, Ignacy Waniewicz. His death on February 21, 1984, has left us with a feeling of immeasurable loss.

With uncanny intelligence, instinct, and energy, Ignacy introduced the first educational television programs in his native Poland in 1957 and rose to the position of Director of Educational Broadcasting. During the mid-1960s, he served as a Paris-based program specialist in the educational use of radio and television, working for UNESCO in Chile, Cuba, Ivory Coast, Upper Volta, Mexico, Egypt, Nigeria, Senegal, Ghana, Great Britain, United States, Switzerland, and Israel. Ignacy shared the experience and insight he gained from this work by teaching and writing in Polish, German, Russian, Hebrew, Spanish, French, and English. His achievements are widely recognized in the broadcasting and academic communities on four continents.

As Director of the Office of Development Research at TVOntario, Ignacy explored his farsighted and consuming interests in adult education, media literacy, television as a primary tool for lifelong learning, and most recently, the educational uses of new technologies. His work did much to shape and guide TVOntario's progress over the last 15 years.

It is with love and respect that we dedicate this series to Ignacy Waniewicz. In its enormous scope, its thorough documentation, its emphasis on concrete results, and its concern with educational issues, this series reflects both Ignacy's vision and his intellectual legacy.

Donna Sharon
for the Office of Development Research

Preface to the Series

NEW TECHNOLOGIES IN CANADIAN EDUCATION

These papers in the series "New Technologies in Canadian Education" are the result of an international commitment. In June 1980, the Third Conference of Ministers of Education of Member States of the European Region of UNESCO adopted a recommendation requesting the member states to carry out joint comparative studies on well-defined problems of common interest in education. At a subsequent meeting of the European Region National Commissions for UNESCO, 14 subjects were agreed on for joint studies.

The theme "New Technologies in Education" was selected as study #11. The 17 countries participating in the study are Austria, Belgium, Denmark, Finland, France, Hungary, Italy, the Netherlands, Poland, Spain, Sweden, Ukrainian SSR, USSR, United Kingdom, as well as Canada, Israel, and the U.S.A. who are also members of the UNESCO European Region. At the first meeting of the national coordinators from these countries, held in October , 1982, at the University of South Carolina in Columbia, South Carolina, U.S.A., a plan was adopted for the study. In the first phase of this plan, the individual countries are to report on the ways in which the new technologies are being used in education. (A brief outline of the international design is available on request.)

The Canadian Commission for UNESCO was requested to coordinate, on an international level, the first year of the study. We are grateful to the Canadian Commission for selecting TVOntario, and the Office of Development Research (ODR) to be in charge of this task. The ODR was also asked to coordinate the Canadian contribution to the study, with financial support from the Department of the Secretary of State. We gratefully acknowledge their assistance.

In preparing the Canadian review of the use of technology in education, the ODR contacted a number of educators, academics, government officials, administrators in educational communications organizations, and others, across the country. It became apparent that there was a strong need for a well-documented account of the uses of both the "older" technologies (e.g., film, audio, television) and the newer technologies (e.g., computers, videodiscs, videotex) in the complex Canadian educational system.

Early in 1983, several types of research activities began simultaneously: designing instruments to gather information from each type of institution or interest group, identifying uses and users of each type of technology, and exploring the areas where Canada's distinctive features predispose toward technological developments. The 17 papers listed on the back of the title page emerged as a result.

Information for these papers was provided by hundreds of individuals expressing their own views or reporting on behalf of educational institutions and organizations, government departments, public and private corporations. We extend to them our sincere thanks.

I would like to acknowledge the contribution made by Thelma Rosen who assisted in the development of the inquiry instruments and played a major role in the gathering of this information. The task of supervising the final editing, production, and distribution of the papers was assigned to Donna Sharon. Her resourcefulness and persistence have contributed greatly to the completion of this series. Sharon Parker typed most of the papers from the initial drafts to their final versions. Her dedication made it possible to complete the study in such a relatively short period.

While the preparation of these papers has been supported by the Canadian Commission for UNESCO and the Department of the Secretary of State, the papers' contents do not necessarily reflect the official views of either party on issues related to technology in education.

Ignacy Waniewicz
Study Coordinator
Director
Office of Development Research
TVOntario

January 1984

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INTRODUCTION

The educational communications authorities in Canada share a common purpose or mandate to provide educational opportunities to their publics. The similarities and differences to be found in the organizational structure and services of each authority indicate a variety of roles and functions. This diversity is a consequence of the fact that there is no single, national plan governing the development and implementation of provincial educational communications authorities and their educational objectives. The reason for this lack of a national plan is rooted in the Canadian constitutional division of powers between the federal and provincial governments.

Canada has a federal constitution, established in 1867 and revised in 1982, in which the powers of the federal and provincial governments are defined. The provincial governments are given sole responsibility for education and so the federal government cannot legislate in this field.

Communication in its current complexity of meaning and structure was not, of course, dealt with in the original division of powers, but the federal government was given the jurisdiction of legislating on matters of common interest to all Canadians. Thus, the federal government has always laid claim to jurisdiction over the field of broadcasting and communications in general. The federal Department of Communications is responsible for the Canadian Radio-television and Telecommunications Commission (CRTC) which licenses and regulates federal communication including broadcasting. In its policies governing the approval of broadcast licenses, the position of the federal government in regard to provincial government licensing was stated clearly in 1946: "The Government has decided that, since broadcasting is the sole responsibility of the Dominion government, broadcasting licenses shall not be issued to other governments or corporations owned by other governments."[1]

The advent of educational broadcasting represented a situation in which both areas of jurisdiction (federal and provincial) overlapped. In a situation where the interests of each jurisdiction are in conflict, a constitutional dilemma occurs as to which one will prevail.

1

Educational broadcasting began in Canada in 1942, when the national Canadian Broadcasting Corporation (CBC) and its affiliates began broadcasting school radio programs created by various educational bodies. By the 1950s, educational television programming was underway as provincial departments of education cooperated with the CBC and other independent commercial television stations in experiments to test out the efficacy of educational television (ETV). By the 1960s, there was a notable increase in the attention and activity given to educational television broadcasting at local, provincial, and federal levels of government. For example, local and provincial television projects proliferated, using airtime offered or sold by the CBC or the independent commercial broadcasters. These initiatives then filtered in two directions to the teacher in the classroom, and to the policy makers at senior provincial and federal levels of government. As a result, the level and nature of educational communications activities varied greatly within and amongst all of the provinces.

By the end of the decade, provincial educational organizations or departments were pressuring the federal government to open up the broadcast licensing policies to accommodate their applications for licenses. In Ontario, plans were under review for the development of an educational communications authority. Meantime, the federal government explored the notion of setting up a national educational broadcasting agency, while having no jurisdictional rights in the field of education. These activities reflected a constitutional dilemma over jurisdiction which had lasted for years.

While this jurisdictional debate no doubt slowed the development of ETV in Canada, it did serve as a catalyst for the definition of what comprised educational programming and what roles and functions would be required to implement it effectively.

It was not until 1969 that a definition of educational programming was officially agreed upon by the federal and provincial levels of government. This was critical in the establishment of frames of reference for the provincial governments trying to plan or implement their own educational communications authorities. The final statement agreed upon set out the following definition of educational programming

as a condition of licensing by the CRTC. An educational broadcaster must have:

- Programming designed to be presented in such a context as to provide a continuity of learning opportunity aimed at the acquisition or improvement of knowledge or the enlargement of understanding of members of the audience to whom such programming is directed and under circumstances such that the acquisition or improvement of such knowledge, or the enlargement of such understanding is subject to supervision or assessment by a provincial authority by an appropriate means.

- Programming providing information on the available courses of instruction or involving the broadcasting of special education events within the educational system, which programming, taken as a whole, shall be designed to furnish educational opportunities and shall be distinctly different from general broadcasting available on public or private channels.[2]

In 1972, the issue over the licensing of provincial educational broadcasters was resolved when the federal government agreed to license certain independent corporations for educational broadcasting. This meant that autonomous agencies, even if funded by the provincial government, were eligible for licensing. As a result, all of the provincial educational communications authorities in Canada are autonomous, maintaining an "arms-length" relationship with their provincial funding ministries.

While these two policy rulings allow for educational broadcasting, and define the conditions of programming to be met, they do not govern the overall roles and functions of the authorities as educational endeavors: this is left to the province to determine. As a result, the existing four educational communications authorities in Canada - ACCESS Alberta, the Knowledge Network in British Columbia, TVOntario, and Radio-Québec may share similar purposes in the provision of educational opportunities to the public, and adhere to a common national programming definition, yet, do have distinct differences that are reflected in their roles and functions.

For example, TVOntario is the only authority which both produces (or acquires) all the educational programs and

materials for both formal and nonformal education, and distributes these programs on its own provincial broadcast television network. In comparison, ACCESS produces and acquires programming materials and has its own radio stations, but does not have its own television network: it uses the facilities of other broadcasters. Radio-Québec and the Knowledge Network are essentially distributors - of educational programming. Radio-Québec does produce educational programming of relevance to its cultural concerns; however, formal, curriculum-related programming is supplied by the Quebec Ministry of Education. The Ministry is also responsible for ascertaining the needs for educational programming and promoting the use of the programs in the schools - two functions which TVOntario integrates as part of its own responsibility. The Knowledge Network distributes programming produced elsewhere without setting its own programming priorities. It represents a decentralized approach which they refer to as a "patchwork quilt"[3] concept of programming. Radio-Québec ensures regional representation in programming requirements through the use of central and regional production facilities and management. TVOntario does not broadcast separate programs to different regions, but uses regional advisory systems to include regional input into its overall programming.

These similarities and differences reflect the approaches taken by the respective provinces in their educational priorities and communications strategies. Their common bond as educational communications authorities is in the provision of educational opportunities to their user groups. To facilitate, expand, and improve this common goal, the four authorities maintain communication with one another, share information and occasionally co-produce programs. A mechanism to facilitate this process has been the establishment of the Agency for Tele-Education in Canada (ATEC).

ATEC is an association of the organizations empowered by provincial statute to broadcast and/or produce educational material. Its goals are to promote and advance the interest in the educational communications of each member, and to establish relations with other broadcasting organizations. Cooperation in the economic and technical development, acquisition, production, distribution, exchange, utilization and evaluation of educational projects and materials is also encouraged.

ATEC is an associate member of the European Broadcasting Union, and in this way its members have their collective interests in educational television represented in the Union, and through it - on the international scene.

Through participation in ATEC, the provincial authorities have a mechanism for channelling their common interests and problems, and for raising issues of significance beyond their provincial boundaries.

TVONTARIO:
THE ONTARIO EDUCATIONAL COMMUNICATIONS AUTHORITY

TVOntario is the educational television network operated by the Ontario Educational Communications Authority (OECA), a provincial crown corporation, created in 1970 by an act of the provincial legislature.

Mandate

The OECA Act is notable for its landmark implications for educational broadcasting in Canada. As a provincial crown corporation, the OECA was the first such provincial authority in Canada established for the purposes of educational broadcasting. The objectives set out in the Act establish a wide spectrum of activities within which OECA can operate. Among these activities are the acquisition, production, and distribution of programs and materials in the educational broadcasting and communications field, and the research that contributes to the achievement of such objectives.[4] The Act is broad enough in scope to allow for the production of extensive print support materials for TVOntario's programming, and for the exploration of new technologies in application to education and educational broadcasting (for example, computer-managed learning, videotex, videodisc).

Purpose

Based on its mandate, as outlined in the OECA Act, TVOntario has formulated a statement to summarize its mission or purpose as a basis for its plans and developments. That purpose is: "To utilize electronic and associated media to provide educational opportunities for all people in Ontario where the use of such media will complement the educational opportunities being offered by other agencies, or alternatively, will provide educational opportunities not otherwise available to such persons, and further, to cooperate with other organizations in attaining social and educational goals."[5]

Political status

TVOntario defines its purpose, goals, and objectives through a strategic planning process in which members of the Board of Directors, advisory councils, and staff are involved. This process reflects the fact that TVOntario, while a crown corporation, is an autonomous organization and not a government directed agency. This fact is underlined in the OECA Act which clearly sets out that "The officers and employees of the Authority are not crown employees."[6] The Act delineates the means of communication to the legislature. In this instance, the Minister of Citizenship and Culture is responsible for the OECA and tables its Annual Report with the provincial legislature. Thus, the Act itself provides for the operation of OECA as a separate entity from the provincial government, with established reporting relationships. The government does not take part in programming decisions. Overall policies are the responsibility of an independent Board of Directors. The thirteen-member Board of Directors and its Chairperson are appointed by the Lieutenant Governor in Council. As a further assurance of autonomy in policy-making, the Act was amended in 1974 to exclude civil servants from serving on the Board of Directors.

Organizational structure

TVOntario's organizational structure is as follows: the Chairperson of the Board of Directors is also the chief executive officer; the Executive Director is the chief operating officer and reports to the chief executive officer. TVOntario's programming and support activities are divided into two sectors, each under a Managing Director. The Educational Telecommunications Sector is composed of English and French Programming Services, Marketing, Corporate Relations, Information and Publications, Market Research, Engineering, and Telidon. The Finance and Operations Sector is composed of Contract Services, Production Services, Finance, Operations, Management Information Systems, and Revenue Development.[7]

It is the responsibility of the Board of Directors to oversee the objectives of the OECA; furthermore, it may "make bylaws regulating its proceedings and generally for conduct and management of affairs of the Authority."[8] In order to

carry out the objectives set out in the Act and the goals it has developed, the Board has been given powers to appoint advisory committees. The statutory provision in this respect sets out not only a compulsory obligation to establish regional councils (to insure a means of ascertaining the needs of provincial regions in educational broadcasting), but also a prerogative right to establish further advisory councils as it considers necessary.

Advisory systems

Regional councils. There are five councils (composed of 10 to 15 members each) representing the economic regions established by the Province of Ontario. These regional councils serve to advise the Board and present proposals on such matters as program production, allocation of airtime and appropriate distribution methods.[9]

The councils meet at least four times a year, regularly forward their recommendations to the Board, and submit an annual report to the Board.

The Francophone Advisory Council. Another council of long-standing and on-going concern is the Francophone Advisory Council. Established in 1975, its objective is to advise the Board of Directors of the OECA on the particular needs of Franco-Ontarians in educational telecommunications. This objective recognizes the "French fact" in Ontario, and indeed, the Authority has already considered, and agreed, in principle, on the future establishment of a dedicated French-language television network in the province.[10]

Advisory committees. In addition to regional and Francophone input to the Authority, special committees are set up as required to maintain an information flow from a diversity of perspectives:

- The Adult Market Advisory Committee advises the staff of adult programming on matters of programming, planning, and priority.

- The Ministry of Education, in consultation with TVOntario, provides an annual list of curriculum areas and educational developments that merit consideration.

- Subject area committees provide analysis of elementary and secondary schools' programming needs. Each committee consists of educators and experts in that field.

- The Committee on Postsecondary Education Projects (COPSEP) advises on the use of funds provided for programming by the Ministry of Colleges and Universities.[11]

TVOntario departments. Besides these conduits of information, advice, and evaluation, there are departments within TVOntario to monitor audience need and response:

- Market Research conducts and commissions surveys to learn the kind of programming needed in Ontario. The department keeps track of audience figures and monitors the use of programs and print materials both in educational institutions and among at-home viewers.

- Project Research tests certain programs and materials before, during, and after production to evaluate their achievement of educational objectives.

- Audience Relations responds to inquiries, requests, and suggestions from the general public, and provides feedback to TVOntario's producers and decision-makers.[12]

In addition, the Office of Development Research has been set up since 1974 (initially called the Office of Planning and Development). Its primary objective is to provide an exploration base for the evolution of TVOntario services; to investigate the application of new concepts in educational communications; and to undertake assignments for the development of sources of international information and cooperation on educational matters related to TVOntario's strategic plans.

It is this complex organizational structure which supports and implements the mandate and purpose of TVOntario as an educational communications authority.

The TVOntario broadcast network

Beginnings. TVOntario first went on the air in Toronto (using the Ultra High Frequency (UHF) Channel 19) on September 29, 1970. Channel 19 was the first UHF channel used for broadcasting in Canada, and represented the first concrete step in the development of a province-wide educational broadcasting network, the planning for which had begun in 1966.

In March, 1966, the Ontario Department of Education applied for a broadcasting license for ETV, Channel 19. While the application was not approved (owing to the federal policy of preventing the provincial governments from acquiring broadcast licenses), the federal government was not unsympathetic to the need for educational broadcasting. In July, 1966, a federal "White Paper on Broadcasting" stated that: "Federal policies in the field of communications must not work to impede but must facilitate the proper discharge of provincial responsibilities for education."[13]

A process of negotiation began between the Ontario Department of Education and the federal Department of the Secretary of State with regard to finding a means to resolve the constitutional dilemmas posed by implementing educational broadcasting. In the meantime, interim measures were undertaken at both the provincial and federal levels. In September, 1966, a newly formed ETV branch of the Ontario Department of Education began broadcasting programs on airtime purchased on CBC stations as well as a number of commercial stations. At the same time, the federal government decreed the allocation of Channel 19 for educational broadcasting. In 1968, the province announced the setting up of a provincial communications authority representative of the educational community to provide a broad educational service. In 1970, these initiatives led to two major events. In January, there was federal approval for a "Channel 19 licence application by the CBC to carry on a new television broadcasting operation in Toronto, to provide a transmission facility for educational programs, which, in turn, are to be provided by the provincial authority."[14] In March, the Act to establish the Ontario Educational Communications Authority was tabled in the provincial legislature, and was passed in June. The first meeting of the Board of Directors occurred in August, and TVOntario went to air in September (with the cooperation of the CBC and its

transmission facilities). It was the start of a province-wide network.

The growth of a network. In 1972, the federal Broadcasting Act was amended to allow the CRTC to issue broadcast licenses to certain independent corporations for educational broadcasting purposes. In November, 1972, the OECA submitted to the Ontario Cabinet a plan for the extension of service beyond the confines of the Toronto transmitter. In December, the OECA submitted an application to the CRTC for five new UHF transmitters in Windsor, Chatham, London, Kitchener, and Ottawa, as well as for a network license. By 1973, the provincial Cabinet had approved this extension of service and, at the federal level, the CRTC had approved the broadcast licenses. The growth of the network had begun.

In subsequent years, the network would expand through a complex distribution system: "The TVOntario television signal, which is beamed from Toronto throughout Ontario via the Canadian Anik C satellite, now reaches 92 per cent of Ontario's population. The signal is received from the satellite and retransmitted to viewers by a comprehensive broadcast and cable network. Twelve medium- and high-power transmitters, 75 low-power transmitters and more than 150 cable systems carry TVOntario's signal to viewers across the province."[15]

By 1984-85, more than 130 northern Ontario communities will be able to receive the TVOntario signal off the air via low-power re-broadcast transmitters (LPRTs). TVOntario has been funded to provide this extension of service by the Ontario Ministry of Northern Affairs.

Currently, TVOntario also offers TVOntario 2, an alternative schedule of TVOntario programming on a number of cable systems throughout southern Ontario.

One of the objectives of the OECA is to provide equality of educational opportunity in Ontario. In order to achieve this, TVOntario programming must be accessible to a maximum number of residents across the province. Therefore, since the inception of OECA, the extension of TVOntario services to all areas of the province has remained a foremost objective. To reach this objective, a network configuration has evolved which combines a pragmatic, cost-effective use of existing

technologies with a keen interest and involvement in the testing and utilization of new technologies.

When OECA considered alternative means of distributing educational programming, it was noted that: "The most economical means of sending programs to the head ends of the various [cable] systems is by broadcast. One cost analysis carried out for the Channel 19 signal area in Metropolitan Toronto indicated that the cost of distributing videotape directly to 50 CATV head ends was over three times that of distribution by broadcast. An additional benefit, not feasible by cable at that time, was the availability of the broadcast signal to rural areas."[16] From the first day of operation, broadcasting has been the principal means of program distribution for TVOntario.

Cable. A means of broadcast delivery via cable systems was soon recognized as valuable by OECA. Cable companies situated within and on the fringe of broadcasting contours are obliged by the CRTC to provide the reception of community educational programming to their subscribers. (See Paper 10.)

This is especially important when the broadcasting is via UHF. For the OECA, this provision provided full access to subscribers where home television sets or the antennas were not equipped for UHF reception. Thus, at a Board of Directors meeting in 1971, it was resolved that OECA should encourage arrangements for programs to be carried by as many cable systems as possible, as an interim measure paving the way for a province-wide network of transmitters.[17] At present, 154 out of 160 cable companies in Ontario carry the full broadcast program of TVOntario.

Satellites. In 1972, the OECA Board of Directors decided to explore the use of telecommunications satellites for educational broadcasting throughout the province. Their interest stemmed from the perception that: "Communications satellites offer two potential advantages over conventional microwave. First, they offer complete illumination of the area to be served. Second, the cost of the service can be largely independent of the distances involved or the number of receiving locations."[18] (See Paper 12.)

The year 1978 marked a major step in satellite activities for the OECA. In January, the OECA took part in a live, two-way television program between the TVOntario network and an educational cable system in California, via satellite. A workshop format was included which allowed participants the chance to exchange views and information.[19]

TVOntario participated in several other satellite teleconferences during 1978, including the First World Congress of the Council for Exceptional Children, a joint Canadian-U.S. Hermes Users' Meeting. As well, the OECA undertook "the transmission of a complete learning system to communities remote from the TVOntario service. This particular project, Camp TVOntario, represented a major development in the delivery of interactive learning systems to remote communities," via satellite.[20]

As the course of these activities unfolded, and the utility of satellite distribution proved successful, the OECA decided to "submit a brief to the Minister of Communications in Ottawa advocating the private ownership of satellite earth stations in Canada. The OECA took this step in the belief that private ownership would facilitate the development and realization of educational applications using satellites."[21]

In 1979, trials using direct-broadcast satellite communication were undertaken: they were sponsored by the federal Department of Communications. Thus, TVOntario was the first North American broadcaster to experiment with this approach to communications.

The success of these satellite experiments led to OECA's utilization of satellite communications as part of its TVOntario network configuration, leading to its current use of the latest satellite - the ANIK C.

Videotape distribution service. More than half of Ontario's school boards tape programs directly off air at no charge. However, an alternative videotape distribution support service was created. In 1973, a Video Program Service (VIPS) catalogue was published, offering a selection of 3,000 programs. Videotapes of these programs can be purchased at low prices by educational or nonprofit institutions. By 1983, the selection of programs was up to 10,000. The use of this service proved to be substantial, particularly at the

secondary school level where almost all of the schools have playback equipment. An indication of the extent to which this service is utilized by all user groups is the fact that in the 1982-83 year, a total of 16,650 programs were distributed through VIPS.[22]

The TVOntario broadcast schedule

TVOntario broadcasts 16 hours a day, seven days a week, except during the summer, when it broadcasts from 1630 to 2400 hours.

TVOntario broadcasts programming for in-school use during the day. Just before and after school hours, it broadcasts programs for children at home. In the early evening (1830 to 2000 hours), programming suitable for the whole family is broadcast. Programming directed at the adult viewer (e.g., science, social issues, public affairs, and arts) is broadcast later in the evening. Wednesday evenings are devoted to adult part-time learning which includes opportunities for viewers to participate in Academies that offer support material and interaction (see Paper 9).

Saturday and Sunday mornings until 1200 hours are devoted to children's programming. Saturday afternoons offer "how-to" programming, part-time learning programs, and tele-courses designed as part of distance learning courses at particular universities or as a supplement to university curriculae.

Seventeen per cent of the TVOntario broadcast schedule consists of French-language programming. Sundays, from 1200 hours to sign-off, feature programs for children, families, and adults in the French language. During the school year, one half-hour each weekday morning and afternoon is given to French-language programming for use in French-language and French immersion schools. French-language series for senior students are broadcast each Tuesday afternoon from 1500-1600 hours for videotape recording.[23]

TVOntario is the only educational network in Canada to broadcast regularly in both English and French.

The overall broadcast schedule is carefully designed and monitored to ensure that it serves the learning needs of its various audience groups.

The TVOntario audience

TVOntario's programs are used in 85 per cent of Ontario's English language elementary schools, 92 per cent of secondary schools, and 96 per cent of French language schools. Fifty per cent of community college instructors and 23 per cent of university instructors use TVOntario programs.

More than 40,000 teachers in Ontario use educational television. Each year in Ontario, an average of 1,000,000 students view TVOntario programs in school.

Forty-nine per cent of all Ontario children aged 2 to 11 watch TVOntario each week. Children in this age bracket account for 26 per cent of TVOntario's audience.

Adult viewers account for 69 per cent of the audience: 34 per cent are women over 18 years of age; 35 per cent are men over 18.[24]

In assessing the needs of its audience, TVOntario categorizes its English- and French-speaking Ontario viewers according to market groups and produces, acquires, and schedules programming in both languages to meet the needs of these market groups: children at home and at school; youth at home and at school; adults and adult part-time learners.

Programs and services

By categorizing its audience into these educational market groups, TVOntario has developed a strategic process for facilitating the delivery of products and services to learners in Ontario. Each market is administered by a market/line matrix team. Each market group is composed of representatives of the areas involved, including needs ascertainment, formative and summative research, production, publications, information services and utilization.[25] This intensive process reflects the care taken to match programs, support materials, and services to the learning needs of each targeted audience group.

For children and youth at home, TVOntario provides a blend of educational, entertaining, and participatory programs that build their self-confidence, stretch their imagination, and enlarge their knowledge and experience. For the younger children, "Polka Dot Door," "Fables of the Green Forest," and the recent series "Today's Special," are some of the popular and award-winning series that have made TVOntario's children's programming notable. To complement its children's series, TVOntario creates, or licenses, the production of program-related books, records, and toys to encourage further learning through play.

For in-school use, TVOntario creates "learning systems" from produced or acquired programming and print-support materials. Some learning systems are designed as core components of the Ontario school curriculum; others provide supplementary development of a subject. With the advent of new computer technologies, TVOntario intends to integrate the use of computer-managed, interactive television-based learning systems for series planned for development between 1984 and 1988.[26] Other technologies identified for development are:

- the provision of computer-managed learning services on a microcomputer;
- computer-assisted instruction (CAI) software for Academies and structured courses to provide learning experiences and exercises;
- telesoftware to transmit computer programs via satellite telephony, satellite video channel and the broadcast network;
- Telidon applications, particularly for the secondary school level;
- interactive videodisc - a visual, audio, and text storage medium that can be accessed using a microcomputer and used for course delivery.[27]

These plans reflect the active way in which TVOntario is moving toward its broad purpose of utilizing electronic and associated media to provide educational opportunities.

TVOntario produces and acquires adult programming that provides broad, informal learning opportunities in a wide range of subjects: series such as "People Patterns," "Speaking Out," and "Realities" deal with social, political, and economic issues; human growth series such as "A Different Understanding" help demonstrate how people deal with various disadvantages and disabilities; the worlds of science and nature are seen in series such as "Vista" and "National Geographic"; a recent co-production - Alvin Toffler's "The Third Wave" - reveals the effects of the technological revolution in day-to-day life; the arts are examined through different series such as the 1983 premiere of a thirteen-part series "Visions: Artists and the Creative Process."

In addition to this type of adult programming, TVOntario has been moving actively into the field of part-time learning with the use of focussed programs and support resources. Certain programming is accompanied by Academies, which are learning systems that integrate television broadcasts and print support materials (additional reading, suggested activities, questionnaires, identification of local resources across the province). Some Academies include a computer-managed learning component in which a computerized system provides additional information triggered by a participant's responses. This additional computer component to television programming represents a pioneering effort on the part of TVOntario (see Paper 9).

The Academies present a wide range of subjects, including parenting, health and the environment, and computers in education. The Academy on Microcomputers is the largest and most successful Academy to date, and includes a computer-managed learning component. For its premiere broadcast run, 10,000 people enrolled in the Academy, which consisted of two complementary television series (Bits and Bytes, followed by a discussion/dialogue television forum, often based on questions sent in by viewers) plus extensive print-support material. An optional hands-on manual and a software package (computer programs on cassette or disc) offered those participants with access to microcomputers a chance to do exercises designed to develop computer literacy.

Aside from the Academies, telecourses are also broadcast which utilize television programs that are integrated by a university or community college into its curriculum. TVOntario is responsible for the broadcast of the television

programs, while the educational institution provides instruction and feedback to the participant. In this way, both credit and noncredit telecourses have been created. Again, they represent a wide range of subjects: for example, business management ("Understanding Behaviour in Organizations"), music ("All You Need Is Love"), economics ("The Age of Uncertainty"), philosophy ("The Moral Question" and "Men of Ideas"), history of classical music ("Music of Western Civilization"), and appreciation of art in the environment ("Environments").

In the face of increasing demands for resources to meet the challenges of a rapidly changing society, the need for part-time learning is expected to grow. In response to this phenomenon, there will be an increasing presence of adult part-time learning programming and support services as part of TVOntario's commitment to education through electronic and associated media.[28]

French-language programming. French-language programs, both acquired and produced, cover such subjects as the arts, science, and public affairs. Samples of the type of programming offered are: "Les Ontariens" (a series about Franco-Ontarians from the seventeenth century to the present); "À Votre Service" (a community information magazine); "Passe-Partout" (for children about everyday experiences); "À toute vitesse" (science and technology); "Chefs-d'oeuvre à l'écran" (an overview of modern literature).

As part of the French-language programming, a French-language version of the Academy on Microcomputers, "Octopuce," is included in the current schedule of programs and activities. "Ca c'est l'Ontario," a thirteen-part series on Ontario, is an example of a noncredit telecourse used in some Ontario postsecondary learning institutions. As with English-language programming, there are substantial support materials (such as teachers' guides, student workbooks, brochures, flyers and some records) available for French-language programs designed for in-school use. Print materials are also available for some adult programming.

Additional support services. As indicated in the programming comments, TVOntario has an active publications/customer relations service to provide a variety of resource materials (program guides, workbooks, kits, records) in French and English which are available to students, teachers, and home viewers at a low cost.

To encourage utilization of its programs, TVOntario offers a lease-buy arrangement to school boards, community colleges, and universities for the acquisition of television and videotape equipment.

On a more personal level, utilization workshops are conducted by TVOntario for teachers, librarians, community groups, and members of the general public. These workshops are designed to promote understanding and use of television as an educational tool.

To further encourage in-school use of television, a television resource teacher (TRT) network has been developed. TRTs are teachers in elementary and secondary schools who have been trained to use, and encourage their peers to use, television more effectively in the classroom. French-language personnes ressource en télé-éducation (PRTs) have an equivalent function. A TRT newsletter is published twice a year to keep TRTs informed about new programming and utilization ideas. A French-language PRT newsletter is expected to debut in 1984.

To help inform and serve adult and postsecondary educators, TVOntario publishes the newsletter Network, which reports on pertinent events in education and telecommunications.

By providing these support services, TVOntario functions as more than just a broadcaster of educational programs - it explores and expands its services to live up to its mandate to act as an educational communications authority. In that context, its pioneering explorations of satellite technology, computer-managed learning systems, and the Canadian videotex system, Telidon, illustrate its commitment to this mandate.

To further facilitate its mandate, TVOntario engages in activities to promote and advance interest in educational communications. TVOntario staff attend and participate in a wide range of provincial, national, and international

education/telecommunication conferences and workshops. As a member of the Agency for Tele-Education in Canada (ATEC), TVOntario takes an active role in its activities and policies.

Funding

Government funding. About 75 per cent of TVOntario's funding comes from the Ontario government, through the Ministry of Citizenship and Culture, and the Ministry of Education. For programs relating to postsecondary needs, it receives funding from the Ontario Ministry of Colleges and Universities.

It also obtains supplementary grants from other federal and provincial government ministries for specific projects. For example, the Secretary of State has contributed funds toward French-language programming; the Department of Communications contributed funding for the Telidon and Education project.

Program sales. TVOntario generates additional revenue by selling its programs, publications, and services to various markets: schools, nonprofit institutions, private companies, broadcasters, and cable companies, across Canada and internationally. In 1982-83, sales resulted in total gross revenues of almost $3.3 million.

Revenue development. TVOntario is actively involved in cooperative ventures with other producers and broadcasters around the world. For example, "The Third Wave" was co-produced with Alvin Toffler's Triwave Productions Inc. and Japan's national broadcaster, NHK.

A fast-growing area of development is in the area of corporate underwriting of productions and acquisitions. To date, a total of more than $2.3 million has been raised in moneys and goods, services, and equipment through this means.

In 1982-83, TVOntario undertook its first Public Membership campaign. In response to direct-mail and on-air appeals, more than 20,000 viewers pledged more than $600,000. TVOntario provides its members with TVO Signal, a monthly magazine of listings and program information.

RADIO-QUÉBEC
(SOCIÉTÉ DE RADIO-TÉLÉVISION DU QUÉBEC)

Mandate

Radio-Québec, or more formally, the Société de radio-télévision du Québec (S.R.T.Q.), is a corporation created and funded by the government of Quebec "to establish and operate an educational television network reaching all parts of Quebec."[29] Radio-Québec is mandated also to reflect the culture of Quebec in all of the province's regional aspects, an objective which it pursues through a policy of "regionalization."

In spite of its name, Radio-Québec is an educational television network. It operates no radio station.

With 10 transmitting stations and two re-broadcasting installations, Radio-Québec is now the largest television network belonging wholly to a Quebec enterprise. Its major directions are defined by a twenty-one-member Board of Directors consisting of a chairperson, appointed by the Lieutenant Governor in Council, the chief executive officer of the corporation, nine regional committee chairpersons, nine representatives from such fields as education and communications, and one representative from Radio-Québec's own staff.

Radio-Québec, as presently constituted, has its legal basis in the amended Loi sur la Société de radio-télévision du Québec of 1979, which is administered by the provincial Minstry of Communications. Furthermore, Radio-Québec is required to appear each year before the Quebec Parliamentary Commission on Communications to explain its policies, answer questions from the members of the province's National Assembly, and justify its use of public funds.

Regular appearances are also required before the Public Service Board, which must ensure that the educational orientation of Radio-Québec's programming and activities conforms to the law.

The mandate of Radio-Québec as defined by the educational programming law requires S.R.T.Q. to:

a) Encourage the exercise of the citizen's right to education, especially by presenting programs which respond to the specific needs of the population for continuing education, and which would assist those members of the population wishing to acquire degrees.

b) Promote citizens' access to their cultural heritage, notably by reflecting the life of different regions and ethnic communities, by encouraging inter-regional and inter-cultural exchanges, and by encouraging the creation and dissemination of provincial audio, visual, or audiovisual productions.

c) Promote citizens' access to social and economic well-being by presenting programs which respond to their social, economic, and educational needs.

d) Encourage the exercise of citizens' right to freedom of expression and information especially by encouraging a discussion of questions of general interest which unfolds their dimensions; by offering a greater world view to the public and by maintaining a balance in subjects treated, interests at stake, and opinions expressed.[30]

Brief history

Radio-Québec is now celebrating its fifteenth anniversary. Although its present form dates from 1979, its forerunner, the Office de la radio de Québec, was created in early 1968. This was primarily a political gesture triggered by a constitutional dichotomy between the Canadian provinces and the federal government of Canada. Although education in Canada is a provincial responsibility, the federal government has control over broadcasting on the grounds that the technology transcends provincial boundaries.

Ontario and Quebec were among the first provinces to take steps to set up educational television broadcasting authorities.

The creation of Radio-Québec in 1968 should not be seen as a mere political gesture, however. The cultural necessity for such an institution was recognized much earlier by the provincial government. Indeed it can be shown that all Quebec governments since the late 1920s have expressed the

need for modern methods of communications to be applied to the cultural development of the province's citizens.

The Office de la radio de Québec lasted for only 20 months. During that time, it produced audiovisual materials for several government ministries and other organizations; however, no broadcasting material was created.

In late 1969, the second incarnation of Radio-Québec came into existence. Renamed the Office de radio-télédiffusion du Québec, its mandate placed considerably more emphasis on the broadcasting function.

Three years later, Radio-Québec distributed its first programs using cable facilities located in Montreal and Quebec City. Cable was extended to several more cities in 1973, and in 1975 the corporation's first two UHF television-transmitting stations, located in Montreal and Quebec City, were inaugurated. A third UHF television transmitter, located in western Quebec, was launched in 1977.

As stated earlier, the law governing Radio-Québec was amended in 1979. This new legislation, reflecting the recommendations contained in the 1978 Rocher Report,[31] solidified the educational mandate of Radio-Québec and added the requirement for regionalization.

Since the beginning of the 1980s, the Radio-Québec television network has been expanding rapidly, with new transmitters being added each year. As of September, 1983, there were 10 transmitters and two re-broadcasting installations, with several more planned. Eight of these will be UHF television stations, four will be VHF. Presently 88 per cent of the population of the province has direct access to educational and cultural programming.

The Radio-Québec network comprises the regions of Montréal, Québec, Outaouais, Abitibi-Témiscamingue, Trois-Rivières, Estrie, Centre du Québec Bas-Saint-Laurent, Saguenay-Lac-Saint-Jean, and Côte-Nord. At the end of 1983, stations at Carleton, Anse-aux-Gascons, Percé and Gaspé were added to the network, and in 1984 it will include Rivière-du-Loup to Grand-Fond. In January, 1985, Radio-Québec will begin broadcasting by satellite.

Radio Québec: "The other television"

Radio-Québec refers to itself as "l'autre télévision" ("the other television"), a succinct phrase describing its desire to be an alternative to commercial television. Although different in its concept and goals from commercial television, Radio-Québec competes for the same audience by using the techniques of mass communications and by scheduling the majority of its programs for the evening prime-time audience. While Radio-Québec does offer some formal academic programs, its emphasis is on informal educational and cultural offerings aimed at the largest audience possible. Many formulas and approaches are used in order to attract and keep this audience. By seeking to inform as it entertains, to teach viewers as it holds their interest, and to analyze as it conveys information, Radio-Québec has succeeded in building up a weekly television audience of nearly two million people. It seems clear that "the other television" is indeed serving as an alternative to almost a third of the province's population.

Audience

Radio-Québec has identified three distinct audiences whom it endeavors to serve: the general population, the school population, and the continuing education population. Its relationship with each of these audiences is solidly based on the network's belief that the viewers alone can determine what they want and need from the television medium.

Respect of the viewers expectations is considered a principle essential to carrying out Radio-Québec's mission. Ongoing annual audience surveys, secondary analyses based on data obtained from Nielson and BBM (Canadian audience measuring organizations), telephone feedback, and formative research are some of the methods used to determine these expectations and evaluate the network's success in meeting them. The policy of regionalization is further evidence of the type of relationship which Radio-Québec seeks to maintain with its viewers.

Programming

Major orientations. Three major orientations govern the programs offered by Radio-Québec: general culture, public affairs, and practical services to the community.

The general culture category, which accounts for 35 per cent of the network's offerings, include programs in such areas as film, music, dance, dramatic works, and Quebec history, culture, and personalities. In this program category we find "60-80," an historical series on Québec in the 1960s; "Les travaillants," a series on the history of the labor movement; "Patience et azur," with the astrophysicist Hubert Reeves; "L'univers de...Charles Dutoit, Lucien Francoeur, Jean-Guy Moreau"; "Caméra," on the history of photography; "Le journal de voyage" by André Malraux; "Le 100e anniversaire du MET" from New York; and the series "Option," "Samedi soir," and "Télé-documents."

The public affairs programs, making up 15 per cent of Radio-Québec's schedule, aim to stimulate discussion on major current events. Interviews, reports, documentaries, and audience participation programs are some of the means used to present and analyze important political, economic, social, cultural, and scientific issues. Major public affairs programs include "Nord-Sud," a magazine of news and international relations; "Droit de parole," an audience participation program, and "Pierre Nadeau rencontre." This category includes also the debates and question periods of the National Assembly.

Fifty per cent of the programs fall into the category of practical services to the community. The target audiences for these broadcasts are more specific and better defined than in the case of the first two groups. Programs in this group offer practical information for retired people, working women, teenagers, etc.; they also offer health-related information, and programs intended for linguistic and cultural minorities of the province. This broad category embraces also the more formal educational programs aimed at school children and adults. Principal service programming includes "Les grandes maladies," co-produced with French and Swiss television; "Planète," a series about cultural communities in Montreal; "Retraite-Action"; "S.O.S. j'écoute"; "Téléservice" and "Passe-Partout" for children.

The program planning process. Programming is established in a highly systematic manner. General programming directions, covering a period of several years, form the base of the planning process. These directions serve as a framework for the annual plans which are more specific and provide details concerning the production, co-production, acquisition, and contracting out of programs.

Considerable efforts are made to identify the needs and expectations of the various audiences so that relevant programs can be planned. Surveys, seminars, panels, audience research, and the services of consultants and resource persons are some of the more common methods used to gauge these needs.

Establishing "production mandates" is another important stage in the programming process. These mandates define the objectives of a particular series or program, identify its major features, and specify the target audience.

Program evaluation is also a significant aspect of program planning at Radio-Québec. Every original series is subjected to a careful assessment at an early stage to ensure that its production mandate is being respected. Adjustments and other changes are made as necessary. Co-productions are similarly evaluated at various stages and modified if required. Programs under consideration for purchase are reviewed to ensure that they conform to the network's educational mission.

Another important element in Radio-Québec's systematic approach to programming is what is known as formative research. The primary purpose of this type of research is not to determine whether a program has reached its objectives but rather to allow the intended audience to collaborate in meeting these goals. By consulting a sampling of the potential viewers both before and during production, the production team can make whatever changes are indicated to reflect the audience's comments.

Formal educational programs. Both academic educational programs directed at school audiences and continuing education programs aimed at adults fall into the category of formal educational programs. In this area, Radio-Québec's

role is essentially that of broadcaster rather than that of a producer.

Approximately 25 hours per week of Radio-Québec's television airtime is dedicated to broadcasting academic programs during school hours. These programs are scheduled from 1000 to 1200 hours, and 1330 to 1430 hours, Monday through Friday. These are programs produced by the provincial Ministry of Education and other agencies involved in the education of children.

Continuing education, which accounts for eight hours of the network's weekly air time, also falls into the category of formal educational programming. These programs are shown on Sundays from 1200 to 1800 hours. Radio-Québec maintains a dialogue with various experts and entrusts them with choosing the topics most likely to be of interest to the target audiences. The subjects vary to a large degree, forming a mosaic that reflects the needs of a working population eager to up-date its professional skills. Radio-Québec then oversees the production of these programs and schedules them in such a way as to reach the largest number of interested viewers possible. Other continuing education programs are produced by Télé-université of the Université du Québec à Montréal and broadcast by Radio-Québec.

Informal educational programs. Formal education is only one aspect of education, however, and academic continuing education programs constitute but one approach to learning. Over the past 30 years, there has been an increasing awareness of the role of numerous nonacademic and informal agents in the education process. Family, the work environment, various public and private institutions, the print and electronic media, and recreational activities are now recognized as making indispensable contributions to this process.

The majority of Radio-Québec's television programs fall into the category of informal education. It is here that the network assumes the more active role of producer. These informal educational programs are generally entrusted to communications specialists rather than to professional educators. The creative use of leisure time, active participation in a constantly changing society, and the general enrichment of the viewers' lives are the main goals

of this type of educational television. To make such programs as accessible as possible, Radio-Québec re-broadcasts the following afternoon the offerings of the previous evening, and uses scheduling strategies and promotional techniques similar to those of commercial television.

Regionalization

A very significant aspect of Radio-Québec as "the other television" is its policy of regionalization, which, as has been indicated above, is the second half of its mandate. This local emphasis is the result of a series of public hearings in 1975 that determined that autonomous regional infrastructures directly linked to the cultural and educational milieu were essential to the establishment of relevant television in Quebec. Rather than extending services, regionalization places programming control with the area's population in an effort to provide viewers with television relevant to their situation.

Each of the province's nine regions has its own committee of seven members appointed by the provincial government. Each committee is responsible for identifying its region's particular needs and producing programs meeting those needs. In addition, the committees are mandated to identify aspects of their regions that would be of interest to viewers throughout the province. In 1982-83, there were 130 hours of regional production on Radio-Québec.

Each region produces a public affairs and a public service program. In Bas-Saint-Laurent, "Le magazine" and "Par temps de pose" are examples. Programs in other regions include "Clin d'oeil" and "Entre les lignes" in Trois-Rivières; "Cartes sur table" in Estrie; "Bloc note" and "Solutions Outaouais" in the Outaouais, and "L'enjeu" in Saguenay-Lac-Saint-Jean. The network also offers regional productions which are broadcast as part of "Québec au pluriel."

Production

Radio-Québec broadcasts more than 3,000 hours of programming. Of this, Radio-Québec produces more than 660 hours itself, co-produces approximately 75 hours, and acquires some 250 hours from other countries.

Co-productions are made with other television networks, both in Quebec and elsewhere, and with such organizations as the Association des producteurs de films du Québec (Quebec Film Producers Association). A recent co-production of note between Radio-Québec and TVOntario is the "Octo-puce" series on the use of microcomputers.

Programs are acquired from a number of sources. Some are received at no cost through cooperative arrangements between Radio-Québec and a variety of agencies such as the consulates of France, the United States, Japan, and West Germany; the Red Cross; the Belgian Tourist Office; Radio-télévision belge; TVOntario; the National Film Board of Canada; and the Québec Ministère des Communications. Other programs are purchased at international film festivals (Cannes, Monte-Carlo, Berlin), at film festivals held in Quebec, and at the Marché international des programmes de télévision (International Television Program Market).

Moreover, Radio-Québec collaborates with associates in the activities of the following organizations:

- Communauté des télévisions francophones (C.T.F.) (French Language Television Society)
- Conseil international des radios et télévisions d'expression française (CIRTEF) (International Council for French Language Radio and Television)
- Agence de coopération culturelle et technique (ACCT) (Agency for Technical and Cultural Cooperation)

At present, Radio-Québec reaches more than 2,000,000 television viewers in the course of one week. The most popular programs are "Passe-Partout" (340,000), "S.O.S. j'écoute" (250,000), "Droit de parole" (236,000), "Ciné-répertoire" (175,000), "Pierre Nadeau rencontre" (165,000), "Téléservice" (130,000), "Nord-Sud" (130,000), "Samedi soir"

(116,000), "En scène" (111,000), and "Retraite-Action" (95,000).

Technical facilities

Radio-Québec has an impressive array of modern facilities for its production and broadcast requirements. These include two television studios for color productions, two videotaping centres, two radio studios, mobile facilities for programs produced on location, a workshop for making sets, accessories, etc., and a resource centre containing collections of books, records, and press clippings.

As indicated earlier, Radio-Québec presently has 10 main transmitters and two rebroadcasters, with more of each planned for the coming years. By the end of this decade, Radio-Québec expects to reach over 96 per cent of the province's population.

Radio-Québec seeks to keep abreast of modern technological developments. For example, it is currently cooperating with two private companies in a project based on the Telidon (teletext) system. When completed, Radio-Québec will be able to broadcast news flashes, scientific or socio-cultural information bulletins, and similar types of information. As another example, it recently signed an agreement with the Canadian Satellite Communications Corporation (CANCOM) to broadcast its programs in northern Canada using satellite facilities.

Conclusion

In the 15 years since its creation, La Société de radio-télévision du Québec has undergone significant changes and has experienced continuous growth. Perhaps the most important event in its history was the 1979 law which made Radio-Québec's educational and regional mandates explicit. Education is defined in very broad terms to encompass formal academic programming and especially informal educational broadcasts aimed at well-defined audiences whose needs and expectations are considered to be of primary importance. With most of its airtime scheduled for the popular prime-time evening hours, Radio-Québec uses the most modern and advanced television techniques and technology to compete with

commercial television channels for its share of the audience. It is in this way that "the other television" seeks to offer a true television alternative to the province's population.

ACCESS ALBERTA

ACCESS Alberta - the Alberta Educational Communications Corporation - was established as a crown corporation in 1973. Apart from a small amount of self-generated revenue, ACCESS is entirely funded by the provincial government. The corporation is responsible to the Alberta legislature through the Alberta Educational Communications Authority and the Minister of Utilities and Telecommunications. Since December, 1982, the Chairperson of the Board of Directors for ACCESS Alberta has also held the position of Chairperson of the provincial authority. The fifteen-member Board of Directors is made up of six representatives from educational associations and government departments and nine members from a broad range of interest areas.

Mandate

In November, 1978, the Program Policy Advisory Committee of the Alberta Educational Communications Authority set down the following revised guidelines for ACCESS Alberta. It is stated that:

The principal role of the Alberta Educational Communications Corporation is complementary to the total educational enterprise within the province of Alberta... The role of the Corporation is to provide services which support the educational enterprise.

The Corporation is responsible for providing the following services:

a) A programming service in various communications media.

b) Production facilities as these are required.

c) The making and acquiring of a variety of educational materials, in various communications media, which serve the educational needs and objectives of the four major educational sectors.[32]

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ACCESS Alberta is committed to serving all Albertans wanting to learn regardless of age, location, or level of education.

Scope of programming

ACCESS Alberta's educational programming activities are designed to meet the needs of four major educational sectors, defined in the 1978 guides as follows:

- Early Education - education for preschool children and parents of preschool children.
- Basic Education - education for school children within the grade I to XII range.
- Higher Education - education which is the responsibility of all formal postsecondary institutions within Alberta including universities, colleges, technical institutes, vocational colleges.
- Further Education - education for those beyond school age which is the responsibility of the Further Education Branch, Advanced Education and Manpower, school systems, postsecondary institutions, departments of government and other agencies which are recognized as having responsibilities in further education.

Supplementary programming is designed to serve client needs other than those designated, including those related to cultural activities.

ACCESS Radio CKUA

Transmission and broadcasting. ACCESS Radio programs originate in Edmonton and are broadcast province-wide through a single AM transmitter and 14 FM transmitters in Calgary, Edmonton, Fort McMurray, Peace River, Medicine Hat, Athabasca, Lethbridge, Grande Prairie, Red Deer, Hinton, Edson, Whitecourt, Spirit River and Drumheller. It is estimated that ACCESS Radio can reach 90 per cent of the population of Alberta. CKUA broadcasts 139 hours each week, beginning at 0600 and ending at 0200 hours except on Sundays when broadcasting ends at 0100 hours.

Production. ACCESS studios in Edmonton produce approximately 225 hours of programming in an average year, a figure which represents more than 400 separate programs. Other programming is acquired primarily from the BBC and CBC or co-produced with other agencies.

Programming. Programming is simulcast from Edmonton to all CKUA stations. The programs broadcast fall into three general categories: (1) ACCESS Radio School Broadcasts (2) educational programs not directly related to school curricula and, (3) general interest programs. The 1981-82 Annual Report indicates that the broadcast schedule addresses itself to the following primary content areas: Music - 60 per cent, News and Public Affairs - 14 per cent, Backgrounding - 7 per cent, Instructional - 10 per cent, Ethno/Cultural - 2 per cent, Educational and Cultural events - 3 per cent.

ACCESS Radio School Broadcasts are on the air five hours per week during the school year: one hour each weekday in two one-half hour time periods, from 1100 to 1130 hours, and 1400 to 1430 hours. These programs have direct relevance to school curricula from grades 1 to 12. Eighteen series were offered from October, 1982 to June, 1983. They covered such subjects as: English, language arts and listening skills, science, social studies, music, guidance and personal development.

Educational programming not directly related to school curricula includes programs for adult further education and for postsecondary students, as well as a small number which are applicable to high school studies. Fifteen and one-half hours weekly are devoted to these programs and all are offered between 1900 to 2300 hours, and on weekends. Twenty-three different series were offered between October, 1982, and June, 1983. Three courses in these offerings (Ensemble, Sur le vif, Allez France) are the radio component of a French language instruction course offered by Athabasca University. The remainder are general education courses for adults and cover a wide range of subjects (e.g., arts, humanities, drama, music, language arts, English as a second language, sociology, psychology, issues in education, and current events). A further educational program for preschoolers and children in grades 1 to 3 is also offered on Saturday

mornings: "Just Because We're Kids" which features music and stories.

General interest programs constitute the remaining 118 1/2 hours. Music and programs discussing music, providing information on music or interviewing musicians and performers make up 53 per cent of these hours. Another 30 per cent is given to programs which are primarily music but which are blended with news and information segments. Twelve per cent are devoted to news reports, news commentary, stock market reports, sports, community and educational announcements.

ACCESS television

Facilities and broadcasting. ACCESS has two production studios, one in Edmonton and one in Calgary which together produce approximately 125 hours of programming or 350 programs in an average year. Programs are broadcast from five private television stations: CFRN (Edmonton), CFAC (Calgary), CKRD (Red Deer), CITL (Lloydminster) CHAT (Medicine Hat). ACCESS programs are also broadcast from five CBC-TV stations in the same five cities: CBXT (Edmonton), CBRT (Calgary), CKRD (Red Deer), CKSA (Lloydminster), CHAT (Medicine Hat). Eight educational cable consortia also acquire ACCESS programming. In 1982-83, approximately 2,500 copies of individual programs were supplied to these eight companies in Calgary, Edmonton, Grande Prairie, Fort McMurray, St. Paul, Drumheller, Edson and Drayton Valley.

Programming. ACCESS television programs are broadcast from 0900 to 1100 hours, Monday through Friday, on three of the private stations, and from 0900 to 1000 hours and 1100 to 1200 hours on the remaining two. School broadcasts are shown on CBC from 1000 to 1030 hours each weekday. No evening programming is regularly scheduled; occasional prime time slots are purchased for special programs.

The 1982-83 schedule indicates programming as follows: Monday through Friday, 0900 to 0930 hours - preschool programs; 0930 to 1000 hours - programs for grades 1 to 6; 1000 to 1030 hours - adult general interest and postsecondary programs; 1030 to 1100 hours - programs for grades 4 to 9.

Acquisitions. Each year, ACCESS acquires more than 150 hours of programming. ACCESS acquires most of its material from Alberta Advanced Education and Manpower, the BBC, CBC, National Centre for Audio Tapes (NCAT), National Film Board, National Geographic, TVOntario, Agency for Instructional Television, Children's Television International Inc. (CTI), Open University, and various private producers and distributors. As a special project, ACCESS has acquired captioned programs for use by schools for the deaf.

Services

The Media Resource Centre (MRC), located in Calgary, stores, duplicates, and distributes to schools and other educational institutions, audio and videotapes, multimedia kits, teachers' guides and printed material. Supplementary material for many of the ACCESS Radio School Broadcasts and ACCESS Television programs is made available to teachers through this Centre. Each year the Media Resource Centre makes over 75,000 duplications. For the price of the blank videotape, Alberta schools and colleges can receive copies of any of the approximately 4,000 video titles or 2,500 audio titles in the Centre. More than 60 different guides are also available to assist teachers in utilizing the programs. The MRC also has a high speed diskette duplication service for the Alberta education system.

Field Service Offices are located in six major Alberta centres: Edmonton, Calgary, Grande Prairie, St. Paul, Red Deer, and Lethbridge. Staff is available to provide information concerning the audiotape and videotape duplication services, support materials, and programs on both radio and television, or to give advice on how to use ACCESS resources in the school curriculum or in community activities. As well as working with individual clients, Field Service personnel have made presentations at conferences and assisted in the implementation and evaluation of special projects.

The Instructional Technology Unit (ITU), responsible for educational computer materials and services, undertakes activities in three areas: (1) computer literacy and awareness (2) software and courseware provide opportunities for experience with computers and, (3) future applications of computer technology in education (experimental projects).

Working with other divisions of ACCESS, the ITU has developed computer literacy projects through the acquisition, production, and distribution of videotapes, self-study packages, multimedia kits, and television programs, and through the establishment of a resource centre for educators and trainers. Hands-on workshops and work-study programs are available for teachers and students. Present activities include the development of videodisc programming.

Special projects

Besides its regular programming activities, ACCESS Alberta undertakes experiments or special projects in new technology and education.

Project Outreach. From January to June, 1982, Project Outreach was set up to offer programs via ANIK-B satellite. Sixteen series for adults were transmitted to ANIK-B from ACCESS facilities in Edmonton and then broadcast from the satellite to seven locations throughout the province (Edmonton, Calgary, Grande Prairie, High Level, Peace River, Fairview, Grouard). A total of six hours of programs were broadcast between 1800 and 2100 hours on Mondays and Wednesdays. A toll-free telephone number was provided to enable members of the audience anywhere in Alberta to ask questions or comment on the programs they were watching.

Eight of the 16 series were of a general interest nature; three were certificate program courses from the Grant MacEwan Community College, the Southern Alberta Institute of Technology, and the Extension Division of the University of Alberta; two courses carried credit value from Athabasca University or Grant MacEwan Community College. A print supported course in high school trigonometry (Alberta Correspondence School), one in stress management (noncredit from Athabasca University), and one on energy efficient housing (Northern Alberta Institute of Technology) were also offered.

Although no courses are currently being offered via ANIK-B, the corporation is in the process of designing a satellite project schedule which should begin in September, 1984. Ten hours daily of programs are being projected and the emphasis will be on curriculum-related material. ACCESS has applied for space on the new ANIK-C satellite, and the programs will

be available throughout the province wherever cable television is received.

Microcomputer course - 1983. In the summer of 1983, a six-week course on basic microcomputer training was offered over commercial television channels for one hour each weekday morning. This introductory course was designed for university accreditation and aimed mainly at teachers. Students were expected to have access to a home computer for the hands-on segment of the course. A toll-free telephone line was made available. Supporting print and computer materials were available also for all students registered in the course. This highly successful course drew an enrollment of over 900 students.

Two-way interactive radio programming. An experiment with Subsidiary Communication Multiplex Operation (SCMO), a closed-circuit radio system which allows two-way communication, was undertaken in 1981. A decoding device was necessary to receive this narrowcast programming and participants used their telephone to establish two-way communication with their instructor. Computer programs have also been transmitted successfully by SCMO.

No further experiments with SCMO are on-going but such services are still being considered as future possibilities. Interactive radio programs are expected to remain in the design stage until at least 1985.

The future

In order to meet the educational needs of all Albertans, ACCESS Alberta has continued to change and grow throughout the 10 years of its existence. To improve the functioning of the corporation, an extensive internal reorganization of staff and divisions took place in 1983. Options now being examined are the extension of client services through the use of satellite-based communications, an extended radio network, SCMO and interactive programming, and microcomputer projects, some of which involve videodisc technology.

THE KNOWLEDGE NETWORK OF THE WEST COMMUNICATIONS AUTHORITY

Background

British Columbia is a large, mountainous province with a dispersed population. The provision of equal educational opportunities represents a major challenge. To confront this challenge, the utilization of interactive educational television has been undertaken as one solution. In the mid- and late 1970s, feasibility studies were initiated by the B.C. Ministry of Education. At that time the technical and economic hurdles were considered too great to overcome. However, interest in educational broadcasting remained, and further studies and experiments were carried out. Notable were two satellite test projects in which educational television programs were distributed to selected education sites. These projects successfully illustrated the technical and economic feasibility of an educational satellite communications system and showed the educational effectiveness of the system as a technology applied to learning. The projects and their findings were instrumental in the decision-making process which led to the creation of the Knowledge Network.

The Knowledge Network of the West Communications Authority was incorporated as a nonprofit society by a B.C. cabinet order in May, 1980. Its creation was announced on June 24, 1980. The motivating rationale for the Network was stated by the Minister of Universities, Science and Communications: "With increasing demand for distance education programs, it is vital that our institutions coordinate their offerings. The Knowledge Network will be able to perform the coordinating function in an objective manner."[33]

Purpose

In the constitution of the Knowledge Network, two primary purposes were identified:

- To assist and collaborate with universities, colleges, provincial institutes, school districts, ministries and agencies of the Province in the development, coordination and delivery of educational programs and materials.

- To establish, maintain, and operate a telecommunications network including cable, microwave, satellite and broadcast elements.[34]

The basic function of the Knowledge Network is to provide a telecommunications network for the delivery of educational programs and materials. The constitution also indicates the roles the Network should play with regard to the provision of educational programs and material. Its role is not to produce these programs and materials, but to advise and assist educational organizations in their production efforts, and then to assist in the coordination of support services to facilitate the use of those programs and materials.

Organizational structure

The Knowledge Network is the public television service of the Knowledge Network of the West Communications Authority, and is governed by the Authority's nine-member Board of Directors. Members of the Board are drawn from the ranks of senior government officials (four members), senior levels of the educational institutions (three members), private sector broadcasting (one member), and a chairperson. The Board of Directors is the policy-making body for the Knowledge Network. All the programs and services offered require Board approval. The Board makes its decisions based on the advice of Network staff and the Learning Systems Working Groups, comprised of representatives from educational institutions whose role it is to identify issues and work toward consensus about them. The Board is not obliged to take the advice of these groups, but generally does so.

The Knowledge Network operates as a "network" in which all participants (Network staff, Working Groups, institutions) cooperate with one another, while each maintains autonomy for that area of responsibility. This model of "cooperative individuality" represents a significant innovation in the way in which an educational communications network can work. It is one of the underlying philosophies behind the development of the Knowledge Network.

Because educational institutions are responsible for the educational content and process of the courses they offer, there is a point of interface when a province-wide communications system is able to provide instructional

resources to each community college region and is also able to act in collaboration with provincially mandated institutions. Because the Knowledge Network is not an educational institution, the determination of its programming must be made in cooperation with those who will be delivering as well as providing it. The whole system includes both the internal organization of the Knowledge Network and the way it interfaces with the institutions and agencies who use the Knowledge Network.

The Knowledge Network involves institutions at the following decision levels:

- Policy - goal-setting for the Knowledge Network as a whole
- Program Planning - developing the strategic plan to achieve the goals
- Interpretive - translating the plan into operational plans and schedules

The institution must decide its level of involvement at each decision level and must determine its level of commitment and involvement in the Knowledge Network.

The Knowledge Network's own organizational structure has been developed to facilitate communication and conversation at these decision-making levels. The Knowledge Network is composed of three main divisions reflecting its three major functions and roles: Network Services, Learning Systems, and Business/Finance.

Network Services. Network Services is responsible for the establishment, maintenance, and operations of the Knowledge Network's telecommunications delivery system. It has three functional areas: Distribution and Technical Services, Public Affairs, and Government and Industry Services.

Distribution and Technical Services ensure the successful delivery of Network programming to cable companies and, through them, to viewers.

Public Affairs is responsible for raising the public's awareness of Knowledge Network and its services, and in assisting communities in the reception of the service.

Government and Industry Services is responsible for keeping the Network "in the forefront of new issues and policy development. By developing strong national and internal links, the Network has become a strong voice in many communications advisory committees. The Network was instrumental in having Telesat Canada re-examine its deployment of Canadian satellites, and played a major role in the Agency for Tele-education in Canada (ATEC)."[35]

Learning Systems. Learning Systems has three areas of responsibility: Learning Systems Design, Learning Systems Services, and Learning Systems Development.

Learning Systems Design is responsible for the coordination of the development of program and support materials proposed and produced or acquired by the participating educational organizations. Its staff have training in educational/instructional design as well as expertise in the design of television programs. They provide advice and counselling services to assist the educational producers from the participating institutions in achieving their objectives. An example of this activity is the workshops held by Network staff for educators on designing programs for live delivery. The Network staff is not the sole arbiter of the educational values of produced or acquired programs, as the programs must be acceptable to the educational agencies participating in a given project.

Learning Systems Services are responsible for the coordination of the delivery and utilization of learning systems. For example, they will assist in the coordination of delivering support materials to institutions, in giving advice on the setting up of registration procedures for telecourses, and in the coordination and delivery of examinations for credit courses.

Learning Systems Development includes those aspects of program acquisition within the Network's mandate, as well as the coordination of the development of learning systems by the province's universities, institutes, agencies, and colleges. For example, a project team was formed in 1982 to

plan a learning system involving the innovative use of television, print modules, and microcomputers.

Business/Finance. This division is responsible for the development and provision of finance, account and support services for the whole organization. It deals with personnel, contracts, space and facilities, as well as the strategies for financial growth.

Growth of a network

Since its coming "on air" in January 1980, the Knowledge Network's satellite-delivered public television service has expanded to reach 140 communities. It is retransmitted by cable television in most of these communities. The television-receive-only (TVRO) "dishes" in these communities are not owned by the Knowledge Network but are provided by the cable television operators or by the communities themselves.

The telecast schedule. The Knowledge Network telecasts 14 hours a day, seven days a week, each day of the year - a total of 5110 hours. Programming commences at 0900 hours and ends at 2300 hours. Preschool and school programming fill most of each morning. Daytime hours include many adult telecourses and further children's programs in the late afternoon. During the week, evenings until 2000 hours are devoted to telecourses, with adult general educational series after 2000 hours and on weekend evenings. Many telecourses have a repeat schedule to facilitate students' varied work schedules. An average 65 per cent of the program content is Canadian, 45 per cent of which is produced in B.C.

Increasing participation. The Network's public television service was designed as a "window" into a world of learning, a window open to all British Columbians. During the past year, the number of students enrolled in telecourses through B.C. colleges, institutes, and universities rose by over 60 per cent to 8,187. Yet this is only a small fraction of the total viewing audience. With the public service now extended to 140 communities throughout the province, thousands more enjoy Network programs on an informal basis.

Growing public involvement was matched by an increase in the number of institutions sponsoring and supporting courses on the Network. This list now includes all 15 community colleges, B.C.'s three universities, the B.C. Institute of Technology, the Open Learning Institute and the Pacific Vocational Institute. Government ministries and provincial associations also increased their participation. The Ministries of Transportation and Highways, Forestry, and Education now utilize the Network for in-service training programs.

At the community level, participation has been expanded by the steady growth of learning centres. Now operating in 67 locations around the province, these centres offer local residents a variety of services relating to Network courses.

The Network encourages active involvement in the learning process. In many cases during the live program, students speak by telephone directly to their instructor. Interaction between widely separated groups is also increasing. An example is the U.B.C. "Young Writer's Workshop," in which Richmond teachers used the Network's interactive services to share their creative writing program with teachers in eight other communities.

Despite the cooperative attitude of educators, there is still a need for specialized training in the instructional aspects of television-based learning. Working closely with the institutions, Learning Systems staff help to meet this need by developing training materials and organizing workshops. Highlights of the past year were the Kelowna Distance Education Conference and the formation of a Coordinating Committee of Educators for learning systems training.

A diversity of ideas. With so many institutions contributing to the program schedule, the Knowledge Network represents a great diversity of ideas and a rich variety of viewing material. The Network schedules this material to meet the needs of many viewers, from the individual watching a single program to the student enrolled in a telecourse.

Programs for children comprise an important portion of the Network schedule. Special programs for preschoolers are offered during suitable viewing hours. For older children,

the Network cooperates with the Provincial Educational Media Centre in scheduling programming related to classroom instruction.

Adult viewers can enjoy a wide variety of "general interest" programming, including documentaries in fields such as nature, science, technology, and literature. They can also follow a teleseries or telecourse informally, or further their education by enrolling in a telecourse through their local community college. Individuals are even offered the opportunity to request their own programs through "Caller's Choice."

Programming for use on the Knowledge Network is obtained from a variety of sources, both local and international. The provincial institutions and agencies using the Network's delivery system are responsible for a growing volume of this material, including pre-taped programs and live, interactive learning systems. Last year, roughly one-sixth of the total schedule - some 550 hours of viewing - comprised original, locally produced programming.

The steady increase in "B.C.-made" programming will be aided by a recent grant from the Ministry of Universities, Science and Communications. These funds have enabled the universities and the Knowledge Network to initiate a number of projects relating to the development of innovative learning systems. In addition to meeting provincial educational needs, these projects could lead to an important new industry based on the sale of B.C. television courses to other jurisdictions.

Programs and services

There are two classes of programming that make up the public educational service carried over the cable system to viewers. These are telecourses, and teleseries, each of which may be pre-taped or aired live. All home viewers see these two types of programming on the Knowledge Network. However, only those who register in the institutions for a telecourse are given the telecourse support materials (textbooks and other learning elements). A feature of both types of programming, accessible to all viewers, is the interactive component of many of the programs. Viewers may dial in through the telephone system, to participate in those

programs that are broadcast live - this gives viewers the opportunity to express their opinions, engage in debate and discussion.

Telecourses. These are learning systems which include television, texts, and study guides prepared by educational institutions. Institutions producing/utilizing telecourses are responsible for the enrollment and accreditation of learners who pay their tuition to the institution.

Enrollment in the telecourses has steadily increased each year. From an initial enrollment in the fall of 1981 of 1,199 registrants, enrollment figures for 1983 climbed to 8,200. Registrants receive the telecourse programs via cable over the Knowledge Network. Learning centres at particular institutions may also provide tape replay facilities for students enrolled in the telecourses, as well as other student support services.[36]

Teleseries. These are series of formal educational television programs centred around a certain theme. They may be supported by viewers' guides, and study and discussion groups may come together for a certain series.

The telecommunications delivery systems

Knowledge Network has developed and maintains two delivery systems: one for the public, and one for closed-circuit use.

The public service has been operating since January, 1981, using satellites and cable to deliver programming into homes throughout the province.

By 1983, more than 82 per cent of the homes in British Columbia could receive Knowledge Network programs and services, through an electronic network reaching 140 communities in the province.

With the 1983 completion of a closed-circuit dedicated cable plant in Vancouver and Victoria, the Knowledge Network operates and maintains a utility that connects the universities, teaching hospitals, and law courts in Vancouver

and Victoria. Further development of the closed-circuit system is planned to expand the service into the interior and northern areas of the province, in order to provide B.C.'s universities, teaching hospitals, and other selected government facilities with a unique ability to talk to one another. The closed-circuit service will permit the institutions to plan, program, and participate in activities such as team teaching, research, medical diagnosis and data exchange. It will result in savings in both human and financial resources by substituting communications links for transportation.

Knowledge West Communications Corporation

In light of increasing development in the combined fields of communications and education, Knowledge West Communications Corporation (KWCC) was formed as "a wholly-owned subsidiary of the Knowledge Network serving as the Network's corporate and entrepreneurial arm. KWCC is empowered to enter into partnerships, joint ventures or other corporate relationships which help to further the objectives of the network."[38] KWCC in partnership with Premier Cablesystems Ltd. owns the closed-circuit dedicated cable plant described in the previous section. It is expected that resources developed by KWCC will help lay the foundation for new software enterprise in British Columbia.

Conclusion

Unlike the other provincial authorities, the Knowledge Network is not a producer of educational or cultural programming. Rather, the network was created to provide extensive communications services to B.C.'s educational institutions. Its emphasis is on the development of interactive learning systems for education at a distance, in order to extend educational opportunities throughout British Columbia.

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MAP OF CANADA, showing physical dimensions, provincial and territorial divisions and major cities.

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END

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